

## EXECUTIVE SUMMARY

Cherokee Canada Inc., 1510837 Alberta Ltd., and Domtar Inc.\* have appealed five enforcement orders, and two significant amendments to these orders, which were issued by the Director, Regional Compliance, Red Deer-North Saskatchewan Region, Operations Division, Alberta Environment and Parks (the Director). The orders were issued under the *Environmental Protection and Enhancement Act*, R.S.A. 2000, c. E-12, (EPEA). The Director is a statutory decision-maker employed by Alberta Environment and Parks, responsible for enforcement under EPEA. Upon receiving these appeals, the Board is required to hold a hearing regarding the orders and provide a report and recommendations to the Minister of Environment and Parks (the Minister), who can confirm, reverse, or vary the Director's decisions to issue the orders. The Minister can substitute her decision for the decision of the Director and make any other direction she considers necessary.

### The Site

The orders relate to a former wood products manufacturing plant in northeast Edmonton. The plant manufactured “treated” wood products such as railway ties and telephone poles. The wood products were treated with chemical preservatives, such as creosote, to prolong their lifespan. Domtar owned and operated the plant from 1924 to 1987 in, what was, a rural area. In part because of the less stringent environmental standards during that time, soils on the site became contaminated. Domtar closed the plant in 1987, undertook some cleanup work and then left the site vacant.\*\* It was approximately at this time when homes began to be built on the land surrounding the site.

In 2010, Cherokee purchased most of the site from Domtar and began undertaking further cleanup work. The work Cherokee is doing is known as brownfield redevelopment. Cherokee is cleaning

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\* 1510837 Alberta Ltd. is a subsidiary of Cherokee Canada Inc. Cherokee Canada Inc. and 1510837 Alberta Ltd. are collectively referred to as Cherokee. Domtar Inc. is referred to as Domtar.

\*\* To be clear, the Board is not suggesting Domtar has done anything different than many industrial operators. Historical operating practices often resulted in site contamination. The practice of closing a plant, undertaking some cleanup work, and allowing the site to remain effectively vacant or abandoned has been a relatively common practice. Usually, this is because, at the time the plant closed, the cost of cleaning up the site outweighs the resale value of the land. This practice has allowed some sites in Alberta to remain vacant or abandoned and unused for decades. While not discussed at the hearing, the Board notes the Government of Alberta has recently introduced changes to the regulations under EPEA to address this environmental, social, and economic problem. These changes were not yet in force at the time of the hearing and were not considered by the Board for the purpose of preparing this Report and Recommendations.

The Site has four parts: Parcel X (a berm and an undeveloped area to the south of the western part of the Homesteader Community); Parcel C (the Verte Homesteader Community, consisting of a residential area and a berm); Parcel Y (the main part of the former Domtar site, consisting of a proposed residential area and a berm); and the Greenbelt (located to the south of the Overlanders Community).

up the site so it can be sold for residential purposes. Part of the site, the Verte Homesteader Community, was approved for residential use, and a number of homes have already been built on this part of the site. Residential neighbourhoods have also been developed adjacent to the site to the north, east, and west.

### **The Orders**

In 2015, an approval engineer from Alberta Environment and Parks contacted the Director and advised that Cherokee may be in contravention of its regulatory approval by constructing a berm without proper authorization. The Director commenced an investigation, and in late 2016, the Director issued his initial order. Following the issuance of the order regarding the unauthorized berm, the Director began investigating the entire site, and eventually issued a total of five enforcement orders, and two significant amendments.

Most notably, the orders required Cherokee and Domtar to develop and implement plans for the immediate removal of effectively all contaminated material from the site. Cherokee and Domtar have appealed because the removal of this material is inconsistent with their plans to manage the contamination on the site (which is a common approach to brownfield redevelopment) and because of the very significant cost of removing and disposing of the contaminated material, which they estimate to be at least \$52,000,000.

### **Protecting Residents**

The Board's primary concern in these appeals is ensuring that the residents in these communities and the other people who use the area are safe. Based on the evidence presented at the hearing of these appeals, the Board has determined there is no immediate risk to these residents and other people. More work is required to complete the delineation and remediation of certain areas of the site. More work is also required to complete the delineation and remediation of certain areas of concern in the adjacent Verte Homesteader and Overlanders Communities. This work needs to be done as soon as practicable, but none of this work is an emergency as suggested by the Director.

The Director's demand to immediately remove the contaminated material from the site caused the Board significant concern. The Director's requirement for immediate removal would have resulted in trucking potentially very large amounts of the contaminated material through the residential communities and on public highways to a landfill. In the Board's view, disturbing the material on the site, which has been present for over 30 years, and trucking the material off the site would have posed a greater risk, particularly to the residents, than leaving it in place and taking the time to

develop a well-considered plan and properly execute the plan to deal with the site. This potential for an increased risk to the residents is why the Board issued stays of the orders.

### **The Director's View**

The Director believes the historical contamination on the site poses a risk to the environment and, most importantly, the people living on and around the site. The chemical preservatives used to treat the wood products are persistent in the environment and, in the right circumstances, can pose a human health risk. While the Director is concerned about contamination of the site in general, the contaminants of particular concern are naphthalene, dioxins, and furans.

Following the issuance of the first of the orders, the Director began an unprecedented investigation of the site through borehole drilling and sampling. Based on the sampling results, which were received over time, the Director proceeded to issue the subsequent orders.

The Director has based his decisions to issue the enforcement orders on four grounds: (1) Cherokee breached their regulatory approval for the site by building a berm without the required authorization; (2) the material used to build the berm is hazardous waste and, therefore, must be removed from the site and disposed of in a hazardous waste landfill; (3) the contaminated material on the site is migrating, and therefore has the potential to cause an adverse effect by impacting the residential areas around the site, and (4) the contaminated material on the site exceeds the criteria specified in the Alberta Tier 1 Soil and Groundwater Remediation Guidelines (the Tier 1 Guidelines) and the criteria specified in Provisional Guidance Documents created by the Director's staff. According to the Director, contaminated material that exceeds these criteria has the potential to cause an adverse effect on the residential areas around the site and cannot be managed on-site.

### **The Board's View**

The Board does not accept these arguments.

The Board determined that Cherokee legitimately believed they had obtained the required authorization under their approval to build the berm. Therefore, the Director was incorrect and unreasonable to use the "lack" of authorization as the foundation for the enforcement orders.

The Board determined that the Director was incorrect and unreasonable in concluding the contaminated material on the site and in the berm was hazardous waste, because of the misinterpretation of the definitions of waste and hazardous waste under EPEA. The definition of waste requires an intention to dispose of the contaminated material before it becomes waste. Cherokee did not intend to dispose of the contaminated material; the contaminated material was

used as part of the reclamation and remediation plan. Specifically, Cherokee intended to use the contaminated material as a building material for the berms. As the contaminated material is not waste, it cannot be hazardous waste. The Board is particularly concerned with this incorrect interpretation of the definition of waste for two reasons.

First, if this interpretation were accepted, it would mean that the moment the owner of a site moved contaminated material on the site, it would become waste, and if the material contains chemicals with certain characteristics, it would be hazardous waste. Further, if it is hazardous waste, the material would have to be removed to a hazardous waste landfill and could no longer be kept on the site.

Second, if this interpretation were accepted, it would be virtually impossible to undertake brownfield redevelopment. This is because of the setback requirements that would result when waste or hazardous waste is kept on the site. Under the Director's interpretation, keeping waste on the site would require approval as a landfill and the effect of this would prevent any development within at least 300 m. In the Board's view, brownfield redevelopment is an essential tool to deal with vacant former industrial sites in Alberta.

The Director also based the enforcement orders on his view that the chemicals of concern, including naphthalene, dioxins, and furans, which are from the wood preserving chemicals such as creosote and pole treating oil, were migrating on the site and therefore, had the potential to cause an adverse effect. The Board determined that the likelihood of the chemicals of concern migrating within the soils on the site in any meaningful way is very low. This is, in part, because no new contamination has been added to the site since some time in 1987, and therefore, the original source of the contamination has been eliminated. The Board accepts the argument there is no "drive mechanism" to cause the migration of the chemicals on the site. The Director's independent experts agreed with this conclusion for chemicals such as creosote.

The Board also heard evidence that no conceptual site model that incorporated all the available data of the site was developed. Therefore, the Director was making assumptions as to the location and potential mobility of contaminants based mainly on new sampling data, without the benefit of previous sampling data that was available. In the Board's view, the Director's "new" sampling data reconfirmed the presence of known contamination that has been in place for decades, which had been sampled previously, and was not the discovery of new contamination.

Finally, the Director's concern is that the naphthalene, dioxins, and furans are present on the site in amounts that exceed the Tier 1 Guidelines and "acute exposure limits." The acute exposure limits were developed by the Director's staff and incorporated into two Provisional Guidance Documents. An acute limit is an amount of a chemical that may cause an adverse health impact as the result of a one-time exposure. (An acute limit contrasts with a chronic limit, where the health impacts occur as the result of exposure over an extended period of time.) Until the Director's staff developed the Provisional Guidance Documents, there was no acute limit for naphthalene or dioxins and furans in Alberta. Given how these chemicals affect human health, only chronic limits have been developed. Based on the evidence presented at the hearing, the Board is of the view the Provisional Guidance Documents are flawed, and therefore an unreasonable and incorrect foundation upon which to issue the enforcement orders. (For example, for dioxins and furans, the World Health Organization concluded: "In view of the long half-lives of [dioxins and furans], the Committee concluded that it would not be appropriate to establish an acute reference dose for these compounds."<sup>\*\*\*</sup>) In addition, the Tier 1 Guidelines criteria the Director included in the enforcement orders applies to the end state of a site cleaned up for residential use. With respect to the main part of the site, referred to as Parcel Y, while Cherokee may be planning to develop this parcel into a residential property, at the moment it remains zoned as an industrial site. While Cherokee's stated goal is to develop Parcel Y to a residential standard, it is doing so as part of a brownfield redevelopment, and in the Board's view, it is not appropriate to impose the Tier 1 Guidelines criteria, on the Site in the middle of the remediation work. As a result, in the Board's view, it was incorrect and unreasonable for the Director to include these Tier 1 Guidelines criteria in the enforcement orders with respect to Parcel X, Parcel Y, and the Greenbelt.

### **Verte Homesteader and Overlanders Communities**

Further, with respect to the Verte Homesteader Community (Parcel C) and Overlanders Community (north of the Greenbelt), more work needs to be done, and it should be done as soon as practicable, but it is not an emergency such that immediate removal is an appropriate course of action. In the Verte Homesteader Community some samples show exceedances of the Tier 1 Guidelines with respect to dioxins and furans, but within the community itself, there are only two samples exceeding the screening levels used by Alberta Health. A screening level is an indication

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<sup>\*\*\*</sup> See: Exhibit 71, Tab 17. "Evaluation of Certain Food Additives and Contaminants. Fifty-Seventh Report of the Joint FAO/WHO Expert Committee on Food Additives."

that more investigation is required; a screening level does not in and of itself require immediate cleanup.

The presence of dioxins and furans in the Verte Homesteader Community was unexpected. Cherokee received permission from Alberta Environment and Parks to use a “proxy” to detect dioxins and furans on the site. A “proxy” uses one chemical to detect the presence of another chemical. Unfortunately, the use of the proxy was not effective. Cherokee agrees that the presence of dioxins and furans in the Verte Homesteader Community needs to be properly delineated, and Cherokee has indicated it will do the work necessary to deal with the dioxins and furans here and elsewhere on the site.

The Board agrees that this work needs to be done. However, in the Board’s view, the Director’s approach of immediate removal would likely create a greater risk and significantly greater disruption to the residents than developing a well-considered and properly executed plan to address the concerns. Therefore, in the Board’s view, the Director’s decision to issue the enforcement orders with respect to the Verte Homesteader Community was both incorrect and unreasonable. The necessary work can be assured by way of the Minister’s Order and the environmental protection orders the Board is recommending, through the use of exposure control, on-site treatment, and removal of material where necessary.

With respect to the Overlanders Community, the Board is concerned about potential data gaps. Considerable sampling has been done with respect to the Greenbelt and the Overlanders Community. However, the Board notes there may have been insufficient sampling done to confirm whether there is a likelihood that naphthalene vapour is present, such that it could enter the basements of homes on the south side of the Overlanders Community. Given that vapour sampling was conducted in one of the homes adjacent to the Greenbelt, and no naphthalene vapours were found, the likelihood of there being a concern is very low. However, one of the experts for Domtar and one of the Director’s witnesses both commented that further delineation around locations with elevated hydrocarbon levels on the Greenbelt warrant further sampling to confirm whether naphthalene vapours present a concern to the Overlanders Community. The Board wants to ensure this issue is addressed. At the same time, the Board wants Domtar to review all the data that is available for dioxins and furans on the Greenbelt and in the Overlanders Community to ensure there is not a concern with these chemicals. If there are any potential concerns, action should be taken to address these chemicals of concern as well.

## **Board's Recommendations**

As there was no basis for issuing the enforcement orders, the Board has recommended the Minister of Environment and Parks (the "Minister") reverse the enforcement orders. The Board has recommended the project be returned to one of the Approvals Groups within Alberta Environment and Parks as a brownfield redevelopment. In particular, the Board has recommended that the Minister issue a Ministerial Order with a detailed series of steps to move this matter forward as a brownfield redevelopment. To ensure the required work in the Verte Homesteader and Overlanders Communities is completed, the Board is recommending that the Minister issue two environmental protection orders: one to Cherokee for the Verte Homesteader Community, and one to Domtar for the Overlanders Community.